

CLAIMS

Wherefore, the following is claimed:

1. A system for bidirectionally communicating
information between communications devices along a connection,
5 comprising:

means for concurrently communicating first and second
signals, respectively, in opposite directions along said
connection between said communications devices; and

10 means for modulating said first and second signals with
different modulation techniques.

2. The system of claim 1, wherein said first signal is
modulated via quadrature amplitude modulation and said second
signal is modulated via pulse level modulation.

15 3. The system of claim 1, wherein said concurrent
communication is asymmetric in that said first and second
signals transfer data at different rates.

4. The system of claim 1, wherein said connection
includes a two wire telephone connection in series with a
digital connection.

5. The system of claim 1, further comprising:

a first transmitter at a first site capable of modulating said first signal using a first modulation technique and capable of transmitting said first signal from said first site to a second device along said connection;

a first receiver at said second site capable of receiving said first signal from said connection and capable of demodulating said first signal using said first modulation technique;

a second transmitter at said second site capable of modulating said second signal using a second modulation technique and capable of transmitting said second signal from said second site to said first site along said connection; and

a second receiver at said first site capable of receiving said second signal from said connection and capable of demodulating said second signal using said second modulation technique.

6. The system of claim 5, further comprising:

one communications device having said first transmitter and said second receiver;

another communications device having said second transmitter and said first receiver;

a mu-law codec disposed between said one communications device and said connection; and

a digital connection interconnecting said mu-law codec and said another communications device.

7. A transceiver for communicating information along a connection, comprising:

5 a transmitter capable of modulating a transmit signal using a first modulation technique and capable of transmitting said transmit signal to said connection;

a receiver capable of receiving a receive signal from said connection and capable of demodulating said receive signal using a second modulation technique that is different than said first modulation technique; and

10 wherein said transmit and receive signals are communicated in full duplex.

8. The system of claim 7, wherein said first modulation technique is quadrature amplitude modulation and wherein said second modulation technique is pulse level modulation.

15 9. The system of claim 7, wherein said first and second signals have different data rates.

10. The system of claim 7, wherein said connection is a two wire analog telephone connection and said transceiver is an analog modem.

20 11. The system of claim 7, wherein said connection is a digital connection and said transceiver is a digital modem.

12. The system of claim 7, wherein said connection is an analog connection and said transceiver is an analog modem. .

13. A method for bidirectionally communicating information between first and second communications devices along a connection, comprising the steps of:

5 concurrently communicating first and second signals in opposite directions along said connection between said first and second communications devices; and

modulating said first and second signals with different modulation techniques.

10 14. The method of claim 13, further comprising the steps of modulating said first signal with quadrature amplitude modulation and modulating said second signal with pulse level modulation.

15 15. The method of claim 13, further comprising the step of communicating said first and second signals with asymmetric data rates.

16. The method of claim 13, further comprising the step of communicating said first and second signals along both an analog connection and a digital connection.

17. A method for communicating information along a connection, comprising the steps of:

transmitting a transmit signal to and receiving a receive signal from said connection in full duplex at a communications device;

modulating said transmit signal with a first modulation technique at said communications device; and

demodulating said receive signal with a second modulation technique that is different than said first modulation technique at said communications device.

18. The method of claim 17, further comprising the steps of modulating said first signal with quadrature amplitude modulation and modulating said second signal with pulse level modulation.

19. The method of claim 17, further comprising the steps of transmitting said transmit signal to and receiving said receive signal from an analog connection.

20. The method of claim 17, further comprising the steps of transmitting said transmit signal to and receiving said receive signal from a digital connection.

21. The method of claim 17, further comprising the step of modulating said first and second signals to have different data rates.

22. The method of claim 17, further comprising the step of performing said steps in a modem.